

REMARKS

Claims 1, 4, 13-15, 20-22 and 25-30 are pending in this application. Claims 1, 4, 13, 14, 20, 25 and 28 have been amended. Claims 2, 3, 5-12, 16-19, 23 and 24 have been cancelled.

Claims 1, 3, 4, 20, 22, 25, 26, 28 and 29 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Merrill et al. (U.S. Patent No. 6,369,853) ("Merrill"). The rejection is respectfully traversed.

Amended claim 1 recites, *inter alia*, an active pixel sensor comprising "an NMOS frame shutter within [a] P-well, said frame shutter including a first storage area for receiving charges from [a] photoreceptor, a second storage area for receiving charges from said first storage area, and respective reset circuits for said first and second storage areas" The pixel disclosed by Merril does not disclose a frame shutter within a P-well having first and second storage areas, each having respective reset circuits. For this and other reasons, amended claim 1 is allowable.

Claim 3 has been cancelled. Claim 4 depends from amended claim 1, and thus are allowable along with claim 1, for at least the reasons set forth above.

Amended claim 20 recites, *inter alia*, an active pixel sensor comprising "an NMOS frame shutter comprising a first storage area for receiving charges from [a] photoreceptor, a second storage area for receiving charges from said first storage area, a sample and hold circuit for gating charges from said first storage area to said second storage area, and respective reset circuits for said first and second storage areas, fabricated within [a] P-well" The pixel disclosed by Merril does not disclose a frame shutter within a P-well having first and second storage areas, each having respective reset circuits. For this and other reasons, amended claim 20 is allowable.

Claim 22 depends from amended claim 20, and thus is allowable along with claim 20, for at least the reasons set forth above.

Amended claim 25 recites, *inter alia*, an integrated pixel sensor comprising “a frame shutter fabricated in [a] P-well, said frame shutter comprising a first storage node for receiving charges from [a] photoreceptor, a transistor for sampling charges from said first storage node on to a second storage node, and respective reset circuits for said first and second storage nodes.” The pixel disclosed by Merril does not disclose a frame shutter within a P-well having first and second storage areas, each having respective reset circuits. For this and other reasons, amended claim 25 is allowable.

Claims 26 and 27 depend from amended claim 25, and thus are allowable along with claim 25, for at least the reasons set forth above.

Amended claim 28 recites, *inter alia*, an integrated pixel circuit comprising “a frame shutter fabricated in [a] P-well, said frame shutter comprising a first storage node for receiving charges from [a] photoreceptor, a sample and hold circuit for receiving charges from said first storage node and sampling charges from said first storage node on to a second storage node, and second respective reset circuits for said first and second storage nodes” The pixel disclosed by Merril does not disclose a frame shutter within a P-well having first and second storage areas, each having respective reset circuits. For this and other reasons, amended claim 25 is allowable.

Claims 29 depends from amended claim 28, and thus are allowable along with claim 28, for at least the reasons set forth above.

Because Merrill fails to disclose every limitation of the claimed invention, Applicants respectfully request withdrawal of the rejection of claims 1, 3, 4, 20, 22, 25, 26, 28 and 29 under 35 U.S.C. § 102(e).

Claims 13-15, 21, 27 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Merrill et al. in view of Yang et al. ("A Snap-Shot CMOS Active Pixel Imager for Low-Noise, High-Speed Imaging"). The rejection is respectfully traversed.

Amended claim 13 recites, *inter alia*, an active pixel sensor comprising "an NMOS frame shutter within [a] P-well, said frame shutter including a first storage area for receiving charges from [a] photoreceptor, a second storage area for receiving charges from said first storage area, and respective reset circuits for said first and second storage areas" Neither Merril nor Yang, alone or in combination, disclose, teach or suggest a frame shutter within a P-well having first and second storage areas, each having respective reset circuits. For this and other reasons, amended claim 13 is allowable.

Claims 14 and 15 depend from amended claim 13. Claim 21 depends from amended claim 20. Claim 27 depends from amended claim 27. Claim 30 depends from amended claim 28. Neither Merril nor Yang, alone or in combination, disclose, teach or suggest all the limitations of amended independent claims 13, 20, 25 or 28. Thus, claims 14, 15, 21, 27 and 30 are also allowable.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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